

Appl. No. 10/760,060

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REMARKS/ARGUMENTS

Claims 1, 2, 14, 15, 16, 18, 20 and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Frodligh et al (US 6,694,148) in view of Willenegger et al (US 2010010684). For the reasons that follow it is respectfully submitted that the Examiner has not established a prima facie case of obviousness. In particular, it is submitted that all the claimed limitations are not taught by the combination of references cited by the Examiner.

Claim 1 recites "determining a set of digital gains in response to the current total transmit power" and "the set of digital gains ... compensating for non-linearities in the transmitter as a function of the current total transmit power such that a desired relationship between channel powers of said set of channels after having been combined to produce the output is achieved". Claim 21 recites the same two limitations and claim 15 recites the latter limitation. It is respectfully submitted that neither of the two references cited by the Examiner discloses these limitations.

The portions of Frodligh et al cited by the Examiner disclose calculating a desired P_{sum} and modifying power control commands for one or several users if the desired P_{sum} exceeds the maximum tolerable threshold level for the MCPA in order to keep P_{sum} less than or equal to the threshold level (col. 8 lines 39 to 47). Thus, the gains are determined based on a comparison of the calculated desired transmit power with a threshold level rather than in response to the current total transmit power. Furthermore, as admitted by the Examiner Frodligh et al does not disclose the digital gains compensating for non-linearities in the transmitter as a function of the current total transmit power such that a desired relationship between channel powers is achieved. The goal of this reference is to provide a more efficient allocation of average output power or to serve a larger number of users (col 4 lines 23 to 42). Compensating for non-linearities by adjusting gains as a function of total transmit power is not contemplated or suggested.

It is submitted that Willenegger et al do not disclose the claimed limitations missing from Frodligh et al. The portions of Willenegger et al cited by the Examiner make no mention of current total transmit power as the basis for determining gains. Rather, two suggestions are made for the basis of determining digital gains to be applied to sub-channels. One suggestion is to

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compare the frame error rate (FER) for each sub-channel with a FER threshold and adjust the power in the respective sub-channel based on that comparison. (Para 0033) The second suggestion is to compare the energy received for each sub-channel with an energy threshold for that channel and to adjust the power for the channel based on the comparison. (Para 0034) The threshold levels used in this reference are all for individual sub-channels and are not a total. Therefore, gains are not determined in response to total transmit power because total transmit power is not considered. There is also no mention of compensating for non-linearities as a function of the current total transmit power. In fact the problem of non-linearities is not contemplated.

Claims 2 and 14 are dependent on claim 1 and are thus distinguishable over Frolich et al and Willeneger et al for at least the reasons given above. Furthermore, with respect to the Examiner's assertion that para 0031 of Willeneger et al discloses the additional limitations claimed in claims 2 and 14, that paragraph recites ways of adjusting the gains values but makes no reference to a relationship between channel powers let alone specified relative powers.

Claims 16, 18 and 20 are dependent on claim 15 and is thus distinguishable over the two cited references for at least the reasons given above. With respect to col. 9 lines 41 to 64 of Frolich et al, P_{total} is not the total transmit power of the transmitter. Rather it is the absolute power level of a particular carrier signal. Therefore, this paragraph does not disclose all of the additional features of claim 16.

Furthermore, it is submitted that there is no suggestion or motivation in either of the cited references to combine. As mentioned above, the goal of Frolich et al. is to provide more efficient allocation of average output power. Gains are determined using a calculated desired total transmit power. Whereas, Willeneger et al. is directed to independently controlling transmit power of each subchannel. There is no mention in Willeneger et al. of using total transmit power as the basis for determining gains. It is respectfully submitted that a person skilled in the art would not have been motivated to combine these two references, without having read the disclosure of the present application. Such hindsight analysis is not permissible.

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Therefore, it is submitted that the combination of Frodligh et al and Willencgger et al fails to disclose all of the claimed features of claims 1, 2, 14, 15, 16, 18, 20 and 21 and therefore claims 1, 2, 14, 15, 16, 18, 20 and 21 are in compliance with 35 U.S.C. 103(a).

For at least the reasons given above, it is requested that the Examiner reconsider and withdraw the rejections under 35 U.S.C. 103(a).

Claims 3-13, 17, 19 and 22-24 are objected to as being dependent on rejected base claims, but the Examiner indicates that they would be allowable if rewritten in independent form. It is respectfully submitted that it is not necessary to rewrite these claims in independent form because the rejection of the base claims should be withdrawn.

In view of the foregoing, early favorable consideration of this application is earnestly solicited.

Respectfully submitted,

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